

OPENER FOR THREADED JAR LIDS

Specification

Field of the Invention

A moderately sized unitary encircling opener to facilitate the removal of a tightly attached threaded lid from a jar.

Background of the Invention

Bottles and jars for containing food are necessarily closed by lids which are tightly threaded on. This is a necessary function to protect the contents from leakage into the jar of harmful substances. In many situations, such as for baby foods, the packaging operation leaves the inside of the jar under a negative pressure in order to secure the tightness. This adds to the force necessary to release the jar. In fact, it is a solid surface to surface contact under substantial compressive load.

Consumers, especially women and new mothers often lack sufficient strength in their hands and wrists to exert the necessary torque on the lid. This is further complicated by the small height of the lid, which provides little area to be gripped. Besides, this area is usually smooth and circular.

This situation has not gone unnoticed, and the market is replete with devices to give some advantage to the person who seeks to open the container. These extend from simple sheets or cones cores of conformable material to make the grip more comfortable, to plier-like gripping devices that require a

2012062308US Date of Deposit 30 Jan 03
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1 squeeze, but also provide leverage. All of these have advantages
2 and disadvantages, but usually they will in fact assist a person
3 to open the jar.

4 In view of the above, one can reasonably and logically ask
5 why another opener is needed, and whether it can provide any
6 overall advantage beyond what already exists. The applicant
7 herein believes he has done so by providing a small, conveniently
8 applied opener which inherently grips the lid and which in its
9 preferred embodiment includes an abutment readily engaged by the
10 thumb or a finger to exert an additional torque.

11 It is an object of this invention to provide an opener of
12 relatively small and elegantly simple construction which can be
13 molded to shape and readily used.

14 Brief Description of the Invention

15 An opener according to this invention comprises a unitary
16 body of stiffly flexible material, preferably rubber or rubber-
17 like, with an arcuate boundary to fit around a major portion of a
18 lid which it is to grip. It has an inner peripheral wall to
19 engage the lid, and an outer peripheral wall to be engaged by the
20 hand of the user.

21 According to a preferred but optional feature of the
22 invention, the body extends around less than the full periph ry
23 of the lid, leaving a gap between the ends of the arcuate
24 structure. This grip is bridged by an abutment which preferably

1 is U-shaped, that projects outwardly from the outer peripheral
2 wall so as to be engageable by a thumb or finger. Preferably
3 this abutment is stiffly flexible so as to permit limited
4 spreading apart of the ends of the body to facilitate engagement
5 with the lid.

6 According to yet another preferred but optional feature of
7 the invention, the inner peripheral wall of the body includes a
8 limit stop which will engage a portion of the lid (such as bead
9 around its lower edge) before the lower edge of the body will
10 contact the jar where it could create a drag that would add to
11 the torque necessary to turn the lid.

12 According to yet another preferred but optional feature of
13 the invention a limit shoulder is incorporated in the body to
14 limit the ultimate passage of the lid into the body.

15 The above and other features of this invention will be fully
16 understood from the following detailed description and the
17 accompanying drawings, in which:

18 Brief Description of the Drawings

19 Fig. 1 is a side elevation of the presently-preferred
20 embodiment of the invention, applied to a jar closed by a lid to
21 be removed by the opener of this invention;

22 Fig. 2 is a top view taken at line 2-2 in Fig. 1;

23 Fig. 3 is a fragmentary cross-section taken at line 3-3 in
24 Fig. 1;

1 Fig. 4 is a bottom view of the opener of Fig. 1; and
2 Fig. 5 is a top view of the opener of Fig. 1, modified to
3 illustrate another embodiment of the invention.

4 Detailed Description of the Invention

5 The presently-preferred embodiment of an opener 10 according
6 to this invention is shown in Fig. 1. It is shown in the
7 configuration for the use whose earliest use is anticipated. It
8 is applied to a typical food jar 11. Such a jar has a bottom 12
9 a peripheral sidewall 13 and an open upper mouth 14 with a thread
10 15 around it (Fig. 3). A sloping shoulder 16 is formed in the
11 wall below the thread.

12 A typical lid 20 for this jar has a closed top 21, a
13 peripheral sidewall 22, and a reinforcing peripheral rib 23 at
14 the bottom of its sidewall. An internal thread (not shown)
15 engages the thread on the jar. Frequently the metal lid itself
16 is not threaded. Instead a ring of sealant material is placed
17 inside the lid adjacent to the mouth and the sidewall which
18 solidifies to form a thread-like contour on the jar thread. This
19 both seals the jar and enables removal of the lid by twisting it
20 around the vertical axis of the jar. It is the function of this
21 opener to grasp the lid and transmit torque from the user's hand
22 to the lid.

23 Opener 10 is a unitary body 30 C-shaped, comprising an
24 internal sidewall 31, external side wall 32, and a gap 33 between

1 ends 34 and 35 of the body. The body is circularly arcuate in
2 plan view. The internal sidewall is dimensioned so as to make a
3 snug fit on the lid when placed around the lid. The internal
4 sidewall will then grip the lid, and the lid can be turned.

5 The product is preferably made of a rubber or rubber-like
6 material so it is self-shape retaining, but flexible enough that
7 the body can be stretched open to accommodate somewhat larger
8 lids.

9 Axial grooves 36 are formed in the outer sidewall to provide
10 a firmer grip for the user's hand. The wall thickness of the
11 opener provides a better size for the user to grip, and amplifies
12 the torque on the smaller-diameter lid.

13 The opener as described above forms a useful embodiment of
14 this invention, and is intended to be encompassed in this
15 invention, useful for all kinds of jars and threaded lids.
16 However, this invention also includes additional feature which
17 facilitate its use, which will now be described.

18 An abutment 40 is unitarily formed as part of the body. It
19 projects beyond the outer sidewall of the body where it can be
20 pressed against by the thumb or finger of the user. For this
21 purpose it has arms 41, 42 formed as sides of an arch that
22 connects the two ends of the body. The arms are connected by a
23 bight 43. This abutment is flexible so as to allow the ends of
24 the body to be spread apart to receive lids of various sizes. It

1 is self-shape retaining, so as to tend to return to its original
2 undistorted shape when no lid is inside it. This is an optional
3 feature. It is shown as a rather rectangular structure. It
4 could instead by a continuous curved arc.

5 Another optional feature is best shown in Figs. 3 and 4.
6 The inner sidewall 31 has portions 45, 46 of different diameter
7 portion 45 being smaller. This forms a shoulder 47 between them.
8 The purpose of this shoulder is to stop the rim 23 before lower
9 edge 48 of the body can strike shoulder 16 of the jar. This
10 prevents the body from pushing down on the shoulder, which would
11 cause a drag that resists the turning of the lid.

12 Shoulder 47 would not be provided if only lids without a
13 seal were to be removed. Also it is not necessary even when
14 beaded lids are used. It is however, a convenience when lids
15 with beads are to be removed from a jar.

16 A stop 50 may optionally be formed on the inside top of the
17 body. It forms an ultimate stop for a lid, especially useful
18 when an abutment 47, or a shoulder 16 is not involved. Stop 50
19 may include a central reinforcement area 51. This will stiffen
20 the body somewhat, and is also available for identification and
21 advertising material.

22 Fig. 5 illustrates the simplest embodiment of the invention.
23 It includes only body 20, and not abutment 40. All of the shapes
24 described above can be utilized in the same manner.

1 Another useful embodiment of the invention (not shown)
2 comprises the construction of Fig. 5 without a gap, but instead a
3 continuous circular structure with the inner surfaces adapted to
4 engage a rim on the lid.

5 This opener is a conveniently molded, single piece article
6 in all of its embodiments. It may be made of any suitably
7 flexible and agreeable material such as natural and synthetic
8 rubbers, and various organic plastic materials.

9 The dimensions are arbitrary, and will be made suitable for
10 an intended size or range of sizes. The opener can be provided
11 in sets of several sizes to accommodate a full range of lids.

12 This invention is not to be limited by the embodiments shown
13 in the drawings and described in the description, which are given
14 by way of example and not of limitation, but only in accordance
15 with the scope of the appended claims.